



GE
159 Plastics Avenue
Pittsfield, MA 01201
USA

Transmitted Via Electronic Mail/Overnight Delivery

August 25, 2006

Ms. Sharon Hayes
United States Environmental Protection Agency
EPA New England
One Congress Street, Suite 1100
Boston, MA 02114-2023

**Re: GE-Pittsfield/Housatonic River Site
Hill 78 and Building 71 On-Plant Consolidation Areas (GECD210 & GECD220)
August 2006 Addendum to Phase II Final OPCA Cover Construction Plan**

Dear Ms. Hayes:

This letter addresses several conditions identified by the U.S. Environmental Protection Agency (EPA) in an August 1, 2006 letter conditionally approving the General Electric Company's (GE's) May 5, 2006 submittal regarding the Hill 78 and Building 71 On-Plant Consolidation Areas (OPCAs), entitled *2006 Consolidation and Phase II Final Cover Construction*. That GE submittal described the anticipated 2006 consolidation activities at the OPCAs and the final cover installation activities proposed for the remaining areas of the OPCAs. This letter addresses the specific EPA comments contained in its August 1, 2006 letter and, as such, serves as an addendum to GE's May 5, 2006 submittal. In addition, based on other recent communications between EPA and GE, this letter includes additional information related to certain OPCA consolidation and cover construction activities. The information in this letter supplements, and in some cases modifies, the information presented in GE's May 5, 2006 submittal.

The contents of this letter are organized to follow the format of EPA's August 1, 2006 letter; a GE response is provided for each EPA comment. In addition, an attachment to this letter (Attachment A) provides additional design information requested by EPA.

EPA Comment 1:

During final cover installation, GE shall continuously evaluate site conditions (e.g., high winds, high temperatures, humidity extremes, high air monitoring results, visible dust, etc.) and specific earthwork activities (e.g., placement of fine sands, etc.) that may result in uncontrolled vapors/visible dust and possible exceedances of particulate and PCB action levels. If necessary, GE shall propose additional operational procedures to be implemented as needed, above and beyond those required by condition #1 above and those described in the EPA-approved June 1999 Detailed Work Plan for On-Plant Consolidation Areas and the April 2006 Addendum to OPCA Work Plan, to ensure that final covers are installed in a controlled manner without undue delays.

GE Response:

Comment noted.

* * *

EPA Comment 2:

GE shall ensure that, prior to placement of the final cover material, the 3- to 6-inch thick layer of wood chips used for daily cover is mixed with the waste material to minimize the potential of distinct, continuous layers of wood chips remaining within the consolidation area.

GE Response:

Agreed. Currently, wood chips are used for daily cover only at the Hill 78 OPCA. The wood chips are removed to the extent practicable prior to the placement of subsequent consolidation materials. The wood chips are then reused and eventually become mixed with the consolidation materials. However, prior to placement of the GCL or FML components of the final cover, the wood chips used for daily cover will be mixed with the underlying consolidation materials (or with imported soil materials that may be used to prepare the final subgrade surface).

* * *

EPA Comment 3:

GE shall provide daily operational procedures and sequencing including placement of daily cover over the area of the cap under construction for all layers (for example, will GE uncover, grade, and recover one-acre sized areas, or less, on a daily basis and, if so, with what material?).

GE Response:

In light of the remaining available weeks in the 2006 construction season, the OPCA area anticipated to be capped in 2006 consists only of the remaining portion of the Building 71 OPCA (approximately 2.8 acres in size). The approximate 1.9-acre portion of the Hill 78 OPCA originally anticipated to be capped in 2006 (as indicated in GE's May 5th submittal) will not be subject to final cover installation this year. Based on discussions with EPA, the installation of a final cover over the remaining portion of the Building 71 OPCA will generally be performed in three phases: 1) subgrade preparation of the entire 2.8 acres (approximately one acre at a time); 2) geosynthetics installation over the entire 2.8 acres; and 3) soil cover placement and hydroseeding in 0.5-acre increments. The general sequence of operational procedures anticipated to be performed by the remediation contractor during each phase of final cover installation is as follows:

- A portion of the OPCA subgrade surface will be uncovered (i.e., the daily cover will be removed) at the start of each construction day (7 AM or later, as further discussed below). The uncovered area of the subgrade surface will not exceed approximately one acre at any given time.
- The subgrade surface will be prepared by fine grading and removing any deleterious materials on the surface that could impact the overlying geosynthetics. Where necessary, a thin layer of imported soil

may be used to form a smooth uniform surface. Following the grading activities, the surface will be subject to smooth-drum rolling. If the overlying geosynthetics are not available for immediate placement on the prepared subgrade, the area will be tarped, and the next portion of subgrade (not to exceed approximately one acre) will be uncovered and prepared as discussed above.

- Consistent with the previously approved cover plan, the top “plateau” areas of the OPCAs will be covered with geosynthetic clay liner (GCL). Only the amount of GCL that can be subsequently covered by flexible membrane liner (FML) that same day will be installed. For other areas (i.e., along the steeper slopes), the GCL will not be installed; rather, FML will be placed directly over the prepared subgrade.
- FML and an overlying geosynthetic drainage composite (GDC) will then be installed over the entire area of prepared subgrade, including over the GCL (up to approximately one acre). Any area of prepared subgrade that is not covered by the FML at the end of each day will be re-tarped.
- As the FML and GDC are deployed and installed, additional areas of subgrade will be uncovered and prepared (if necessary) concurrently. FML and GDC deployment will continue over the newly prepared subgrade until the entire area identified for final cover installation is covered with FML and GDC. For 2006, as noted above, it is anticipated that FML and GDC will be installed over the entire remaining 2.8 acres of the Building 71 OPCA that have not been previously covered with the final cover system. Again, however, at no time will the area of exposed subgrade exceed approximately one acre (i.e., not be covered by tarps or FML).
- Once the entire area identified for final cover installation is covered with FML and GDC, overlying soil layers will be installed. The soil protection layer will be installed and compacted in a single 18-inch-thick layer over an area not to exceed 0.5 acre. Once 0.5 acre of the FML and GDC is covered with the 18-inch-thick soil cover layer, a 6-inch-thick layer of topsoil will be installed. Once 0.5 acre of topsoil is installed, the entire 0.5 acre will be hydroseeded with seed, fertilizer, mulch and tactifier. (Depending on weather conditions, a sprinkler system may be needed until there is sufficient vegetative growth to eliminate dust generation.). The next section of FML and GDC (0.5 acre maximum) will then be covered with the 18-inch-thick soil cover layer.
- Once final grading of the subgrade surface is initiated, as well as during installation of the soil components within the final cover system, daily covers will be used at the end of each day, consisting of tarps (for subgrade, soil cover, or topsoil), hydromulch (for soil cover or topsoil only), or in the case where the completed topsoil layer is the final exposed surface, hydroseed. Spraying of the subgrade material and cover soils with water during their placement (until daily cover is installed) will also be performed to further control dust generation. At the start of the following work day, the tarps will be removed to the extent necessary for completion of the subgrade surface or a particular soil layer; if used for daily cover, the hydromulch will be covered with the remaining soil layer(s).
- The above cover construction activities (including re-tarping and other end-of-day housekeeping activities) will be performed on weekdays between the working hours of 7 AM and 6 PM. There will be no equipment start-up before 7 AM, and material transport vehicles (including those vehicles transporting soil cover materials) will not enter the site after 4 PM. Under some circumstances, it may be necessary to perform certain specific, time-critical activities (e.g., geosynthetics installation) after 6 PM. In those instances, GE will request EPA approval (at least three days in advance) to

complete such activities after 6 PM. At no time, however, will on-site work activities extend beyond 7 PM, or be performed on weekends or federal holidays.

- Dust control measures will be performed continuously any time any subgrade or soil cover is exposed (i.e., not covered with tarps, hydromulch, or hydroseed).
- Air monitoring for airborne particulates will be conducted at the five OPCA air monitoring locations daily during the final cover installation activities (as well as during active consolidation activities), and monitoring for airborne PCBs will be performed at these five locations twice a week. Twice-weekly PCB air monitoring will continue through September 29, 2006, at which time the frequency will be re-evaluated by GE and EPA based on the anticipated activities at each OPCA.

As recently discussed with EPA, there may be periods of time when separate OPCA consolidation and cover construction activities will be occurring simultaneously. In this event, GE will ensure that all of the site control, dust control, and other precautionary measures that have previously been approved by EPA will be fully maintained for all areas subject to the ongoing activities (including maintaining separate work crews for each activity). For example, in this situation, multiple dust suppression activities will be implemented as necessary.

Lastly, GE is anticipating that if the proposed 2006 final cover installation activities are initiated in August 2006, they will be substantially completed by the end of 2006 (weather permitting). However, similar to the 2005 final cover installation activities, certain final cover features (e.g., drainage swales) may be completed during the following spring.

* * *

EPA Comment 4:

GE shall define "Low Permeability General Fill" in Detail 1 of Drawing 8.

GE Response:

The "Low Permeability General Fill" identified in Detail 1 of Drawing 8 was specified to preclude the use of high permeability soil (e.g., sand) during construction of the mid-slope swales. Until vegetation is established within the swale, lower permeability fill within the berm will promote stormwater flow within the swale and inhibit percolation into the berm. This material is defined as material that has a significant amount (at least 10%) of fine-grained material to limit its permeability. The required gradation characteristics of the soil material are indicated below.

Sieve Size	Percent Passing (%)
3"	100
#4	65-90
#40	50-80
#200 (indicating fine-grained material)	10-40
Clay-sized fraction to be 3% minimum	

* * *

EPA Comment 5:

GE shall identify where Detail 2 of Drawing 8 is used.

GE Response:

Detail 2 on Drawing 8 is a cross section (i.e., looking down the slope of the OPCAs) of a temporary final cover termination along the slope of the OPCA. This particular detail would be applicable to slope areas that will be partially covered with the final cover system, thereby leaving a temporary cover edge parallel to the slope. This detail illustrates how the edge of the final cover should be constructed for a future final cover connection. The pipe depicted on the detail is the HDPE pipe in the anchor trench located at the bottom of the slope.

* * *

EPA Comment 6:

GE shall identify the length of the 2H:1V slope in Detail 1 of Drawing 9 and clarify whether veneer stability during construction was considered. GE shall assess the feasibility of placing cover soil in a generally upslope direction (from the toe to the top of the slope) given the limited access to the toe of the sideslopes. In order to minimize tension, cover soil shall not be pushed from the top of the sideslopes down to the toe over geosynthetic materials.

GE Response:

The length of the temporary 2H:1V slope in Detail 1 on Drawing 9 is approximately 40 feet. This slope was not specifically analyzed for veneer stability during the design since it is a short-term, temporary condition that affects a relatively small portion of the slope (as shown on Drawing 2). The steeper slope in this area will be filled to 3H:1V during construction of the final cover system and retaining wall. Filling of this area will be performed from the bottom of the slope to the top to minimize tensioning of the underlying geosynthetics.

* * *

EPA Comment 7:

GE shall submit the design calculations for the retaining wall identified in Detail 2 of Drawing 9.

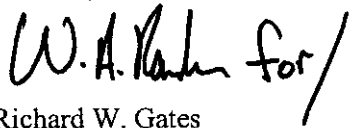
GE Response:

The design calculations for the retaining wall were prepared in November, 2002 by Associated Design Partners, Inc., a subcontractor to the retaining wall installer. The design calculations are included as Attachment A to this letter.

* * *

We trust the above responses are sufficient to address EPA's comments and that final cover installation activities can be initiated later in August. If you have any further questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "W. A. Gates for /".

Richard W. Gates
Remediation Project Manager

WAR/jlc
Attachments

cc: Dean Tagliaferro, EPA
Tim Conway, EPA
John Kilborn, EPA
Holly Inglis, EPA
Rose Howell, EPA*
K.C. Mitkevicius, USACE
Susan Steenstrup, MDEP (2 copies)
Anna Symington, MDEP*
Jane Rothchild, MDEP*
Linda Palmieri, Weston (2 copies)
Nancy E. Harper, MA AG*
Dale Young, MA EOE*
Tom Hickey, Director, PED
Mayor James Ruberto, City of Pittsfield

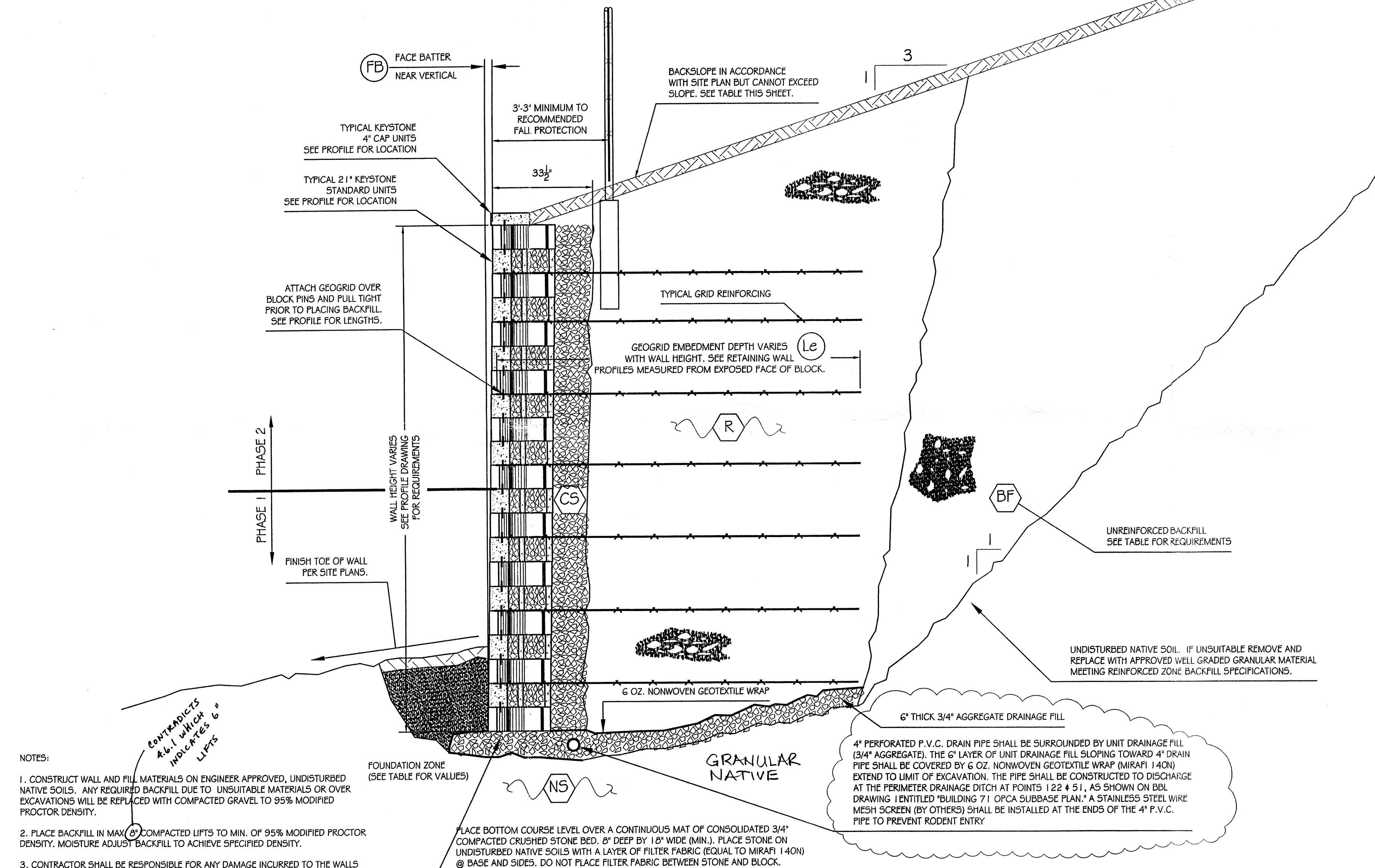
Pittsfield Department of Health
Jeffrey Bernstein, Bernstein, Cushner &
Kimmell
Teresa Bowers, Gradient
Michael Carroll, GE*
Andrew Silber, GE
John Novotny, GE
Roderic McLaren, GE*
James Nuss, BBL
James Bieke, Goodwin Procter
Larry Kirsch, Goodwin Procter
Public Information Repositories
GE Internal Repository

**cover letter only*

Attachment A

Retaining Wall Engineering Drawings





DETAIL REFERENCE LETTER	DESIGN VALUES DESCRIPTION	E/P A/C	VALUE	UNITS	CONSTRUCTION COMPLIANCE CONFIRMED
NS	NATIVE SOIL SUBGRADE ALLOWABLE BEARING CAPACITY	E/A	3000	P.S.F.	
	NATIVE SOIL SUBGRADE INTERNAL FRICTION ANGLE	E/A	30°	DEGREES	
	NATIVE SOIL SUBGRADE UNIT WEIGHT TOTAL ±5 P.C.F.	E/A	115	P.C.F.	
	NATIVE SOIL SUBGRADE COHESION	E/A	N/A	P.C.F.	
	NATIVE RETAINED SOIL INTERNAL FRICTION ANGLE	E/A	30	DEGREES	
	NATIVE RETAINED SOIL UNIT WEIGHT TOTAL ±5 P.C.F.	E/A	130	P.C.F.	
R	REINFORCED FILL MATERIAL INTERNAL FRICTION ANGLE	P	34	DEGREES	
	REINFORCED FILL MATERIAL UNIT WEIGHT TOTAL ±5 P.C.F.	P	125	P.C.F.	
	REINFORCED FILL MATERIAL MAXIMUM PARTICLE SIZE	P	4	INCHES	
	REINFORCED FILL MATERIAL MAXIMUM FINES PASSING 200 SIEVE	P	8	PERCENT	
BF	UNREINFORCED BACKFILL MATERIAL INTERNAL FRICTION ANGLE	P	34	DEGREES	
	UNREINFORCED BACKFILL MATERIAL MAXIMUM PARTICLE SIZE	P	4	INCHES	
	UNREINFORCED BACKFILL MATERIAL MAXIMUM FINES PASSING 200 SIEVE	P	8	PERCENT	
CS	CRUSHED STONE UNIT FILL MEDIAN PARTICLE SIZE	P	3/4	INCHES	
BS	TOP OF WALL MAXIMUM BACKSLOPE ANGLE	P	18.5	DEGREES	
FB	FACE BATTER	P	NEAR VERTICAL	DEGREES	
K	SIZE OF KEYSTONE UNITS STANDARD OR COMPAC (SMALL)	P	ROCK—FACE STANDARDS	BLOCK	

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Submit final test reports for compaction testing to Associated Design Partners, Inc. for our records and also submit final test reports to the owner for their records.

380 Leighton Road
Baldmouth, Maine 04105

PROJECT: **GE PITTSFIELD MSE**
PITTSFIELD, MASSACHUSETTS
FOR: **KEYSTONE NORTHEAST**

SHEET TITLE: **KEYSTONE WALL SECTION, DESIGN VALUES**
CONSTRUCTION NOTES, & DETAILS

[illegible]

DATE: 11-07-02
SCALE: AS NOTED
DESIGN BY: J. THIBODEAU
DRAWN BY: A. BENNETT
FILE No. 02230-RT.DWG
PROJECT NUMBER:
02230
SHEET: OF
RT1 2

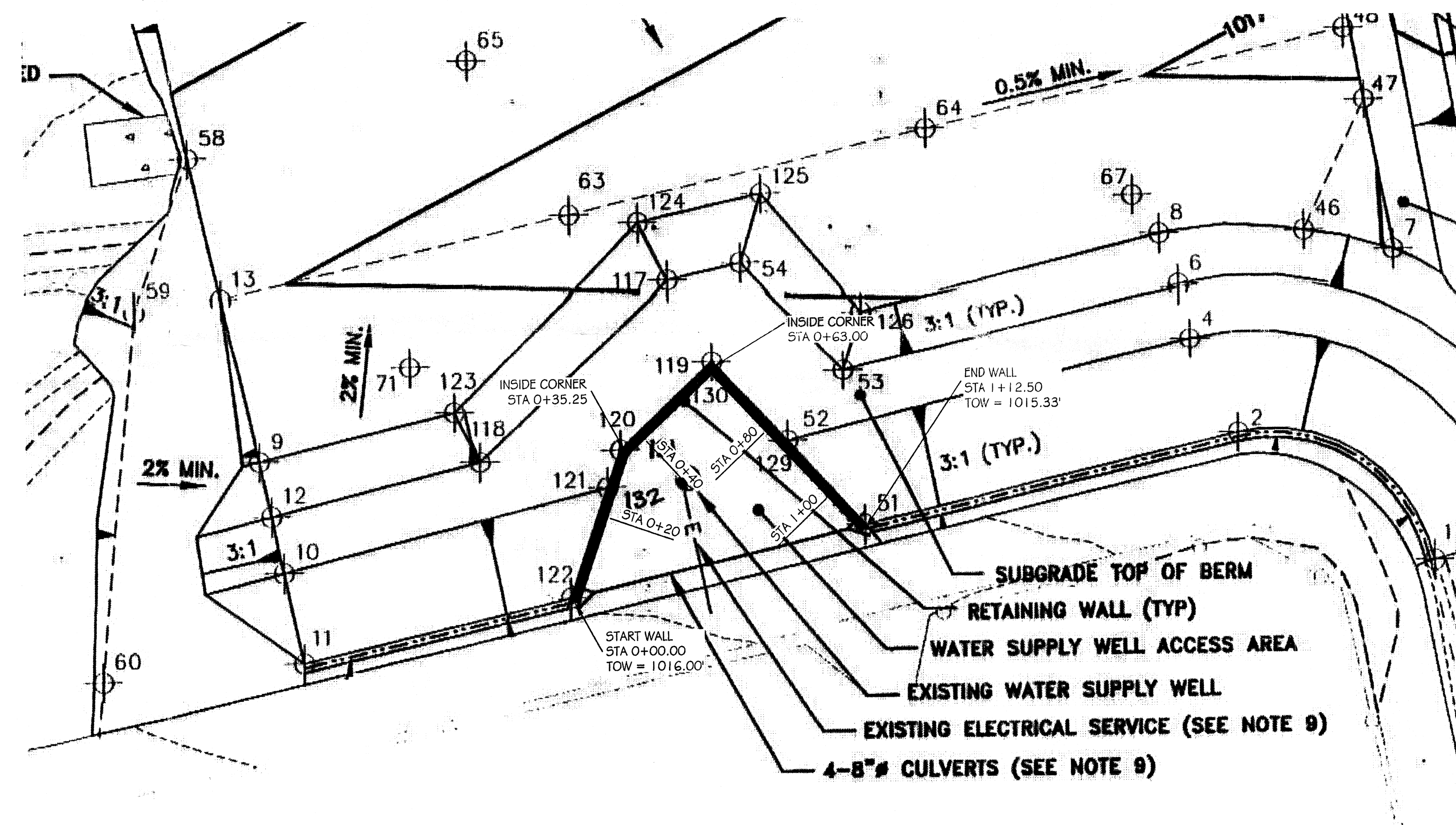
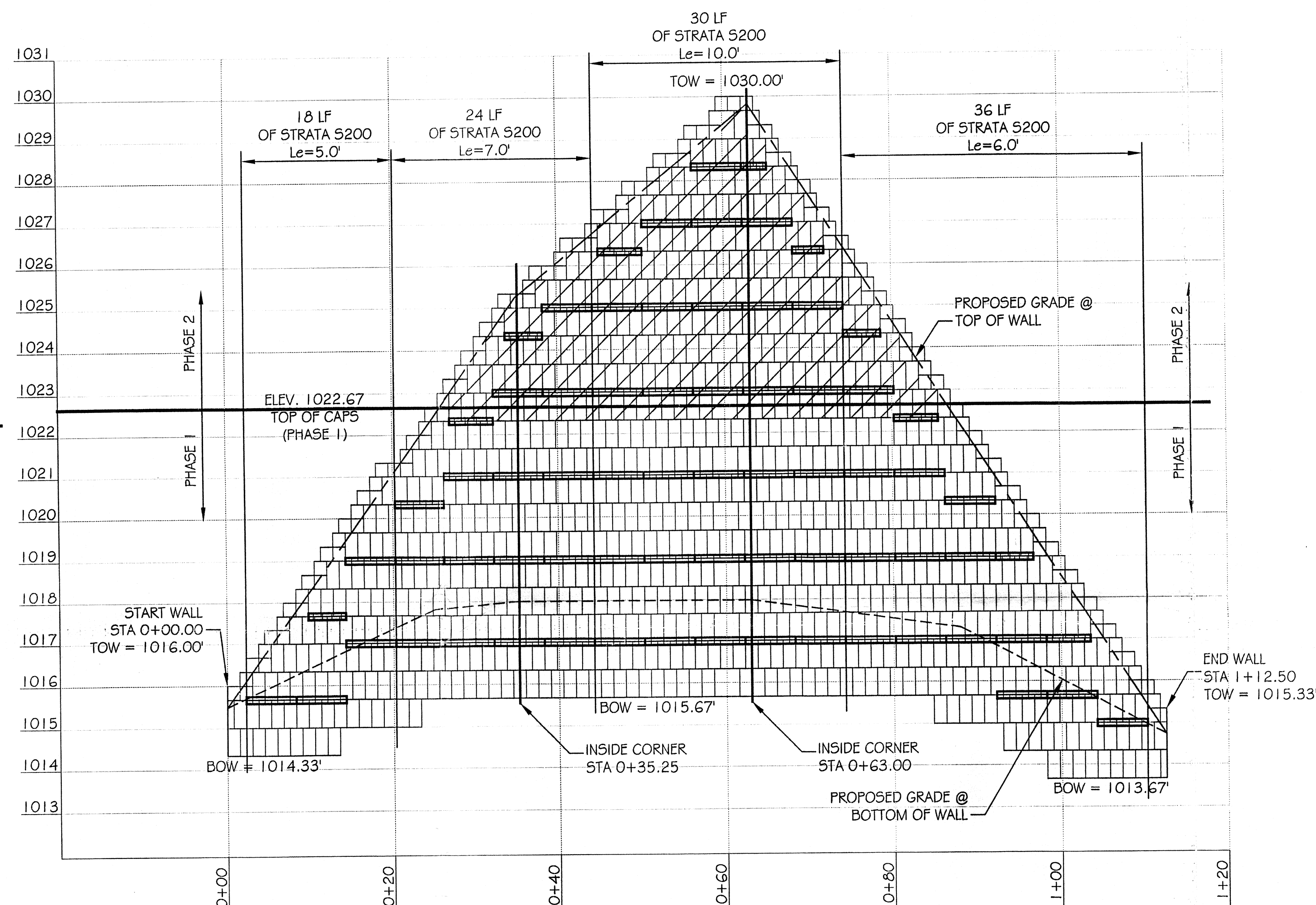
PHASE 2

72 - 4" CAPS
236 - STANDARD UNITS
138 - SY OF STRATA 5200

START COURSE	LENGTH OF COURSE	NUMBER OF BLOCKS	END COURSE
0+00.00	112.50'	140 - 4" CAPS	1+12.50
0+60.00	3.00	2	0+63.00
0+56.25	9.00	6	0+65.25
0+52.50	15.00	10	0+67.50
0+48.75	21.00	14	0+69.75
0+45.00	27.00	18	0+72.00
0+41.25	33.00	22	0+74.25
0+37.50	39.00	26	0+76.50
0+33.75	45.00	30	0+78.75
0+31.50	49.50	33	0+81.00
0+29.25	54.00	36	0+83.25
0+27.00	58.50	39	0+85.50
0+24.75	63.00	42	0+87.75
0+22.50	67.50	45	0+90.00
0+18.75	73.50	49	0+92.25
0+16.50	78.00	52	0+94.50
0+14.25	82.50	55	0+96.75
0+12.00	87.00	58	0+99.00
0+09.75	91.50	61	1+01.25
0+07.50	96.00	64	1+03.50
0+05.25	100.50	67	1+05.75
0+03.00	105.00	70	1+08.00
0+00.00	23.25	15.5	0+23.25
0+04.75	25.50	17	1+04.75
0+00.00	13.50	9	0+13.50
0+03.00	19.50	13	1+03.00
0+98.25	14.25	9.5	1+12.50

WALL TOTALS

140 - 4" CAPS
863 - STANDARD ROCK-FACE UNITS
368 - 5Y OF STRATA 5200



☐ **SEARCHED** ☒ **INDEXED**
REVENUED **SERIALIZED**
 COMPLAINED WITH CONSUMER CREDIT
BLASLAND, SOLICK & SONS, INC.
W. A. Rand

 SIGNATURE
12/16/02 Syr.
 Date Office Location
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NOV 29 2002

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PARTNERS INC.**

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PROJECT: **GE PITTSFIELD MSE**
PITTSFIELD, MASSACHUSETTS
FOR: **KEYSTONE NORTHEAST**

SHEET TITLE: **PARTIAL SITE PLAN &
WAIT ELEVATION PROFILE**

[illegible]